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1 Mining block correlations to improve storage performance



Zhenmin Li, Zhifeng Chen, Yuanyuan Zhou

May 2005 ACM Transactions on Storage (TOS), Volume 1 Issue 2

Publisher: ACM

Full text available:  [PDF](#) (1.02 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 22, Downloads (12 Months): 170, Citation Count: 2

Block correlations are common semantic patterns in storage systems. They can be exploited for improving the effectiveness of storage caching, prefetching, data layout, and disk scheduling. Unfortunately, information about block correlations is unavailable ...

Keywords: Storage management, block correlations, file system management, mining methods and algorithms

2 Graph indexing based on discriminative frequent structure analysis



Xifeng Yan, Philip S. Yu, Jiawei Han

December 2005 ACM Transactions on Database Systems (TODS), Volume 30 Issue 4

Publisher: ACM

Full text available: [PDF](#) (543.54 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 17, Downloads (12 Months): 162, Citation Count: 4

Graphs have become increasingly important in modelling complicated structures and schemaless data such as chemical compounds, proteins, and XML documents. Given a *graph query*, it is desirable to retrieve graphs quickly from a large database via ...

Keywords: Graph database, frequent pattern, index

3 prefuse: a toolkit for interactive information visualization



Jeffrey Heer, Stuart K. Card, James A. Landay

April 2005 CHI '05: Proceedings of the SIGCHI conference on Human factors in computing systems

Publisher: ACM

Full text available: [PDF](#) (1.31 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 57, Downloads (12 Months): 543, Citation Count: 25

Although information visualization (infovis) technologies have proven indispensable tools for making sense of complex data, wide-spread deployment has yet to take hold, as successful infovis applications are often difficult to author and require domain-specific ...

Keywords: 2D graphics, graphs, information visualization, interaction, navigation, toolkits, trees, user interfaces

4 A hierarchical load-balancing framework for dynamic multithreaded computations

Vijay Karamcheti, Andrew A. Chien

November 1998 Supercomputing '98: Proceedings of the 1998 ACM/IEEE conference on Supercomputing (CDROM)

Publisher: IEEE Computer Society

Full text available: [PDF](#) (120.01 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#)

Bibliometrics: Downloads (6 Weeks): 3, Downloads (12 Months): 27, Citation Count: 1

High-level parallel programming models that support dynamic fine-grained threads in a global object space, are becoming increasingly popular for expressing irregular applications based on sophisticated adaptive algorithms and pointer-based data structures. ...

5 Cooperative XPath caching



Kostas Lillis, Evangelia Pitoura

June 2008 SIGMOD '08: Proceedings of the 2008 ACM SIGMOD international conference on Management of data

Publisher: ACM

Full text available: [PDF](#) (1.04 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 48, Downloads (12 Months): 131, Citation Count: 0

Motivated by the fact that XML is increasingly being used in distributed applications, we propose building a cooperative caching scheme for XML documents. Our scheme allows sharing cache content among a number of peers. To facilitate sharing, a distributed ...

Keywords: cache, peer-to-peer systems, xml

6 Visualising dynamic memory allocators



A. M. Cheadle, A. J. Field, J. W. Ayres, N. Dunn, R. A. Hayden, J. Nystrom-Persson

June 2006 ISMM '06: Proceedings of the 5th international symposium on Memory management

Publisher: ACM

Full text available: [PDF](#) (177.16 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 5, Downloads (12 Months): 94, Citation Count: 0

We present generic extensions to the GCspy visualisation frame-work that make it suitable for tracking the way continuous dynamic memory allocators such as dmalloc or incremental and concurrent garbage collectors make use of heap memory. These ...

Keywords: dynamic memory allocation, garbage collection, language implementation, memory management, visualisation of objects

7 Fast algorithm for creating space efficient dispatching tables with application to multi-dispatching



Yoav Zibin, Joseph Yossi Gil

November 2002 OOPSLA '02: Proceedings of the 17th ACM SIGPLAN conference on Object-oriented programming, systems, languages, and applications

Publisher: ACM

Full text available: [PDF](#) (312.23 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#)

Bibliometrics: Downloads (6 Weeks): 5, Downloads (12 Months): 43, Citation Count: 9

The dispatching problem can be solved very efficiently in the single-inheritance~(SI) setting. In this paper we show how to extend one such solution to the multiple-inheritance~(MI) setting. This generalization comes with an increase to the space requirement ...

8 Location based placement of whole distributed systems

 David Spence, Jon Crowcroft, Steven Hand, Tim Harris
October 2005 CoNEXT '05: Proceedings of the 2005 ACM conference on Emerging network experiment and technology

Publisher: ACM

Full text available:  [pdf](#) (298.25 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 3, Downloads (12 Months): 89, Citation Count: 1

The high bandwidth and low latency of the modern internet has made possible the deployment of *distributed computing platforms*. The *XenoServe* platform provides a distributed computing platform open to all and presents three major new challenges ...

Keywords: location systems, peer-to-peer, resource discovery

9 Theoretical and architectural support for input device adaptation

 Jingtao Wang, Jennifer Mankoff
November 2003 CUU '03: Proceedings of the 2003 conference on Universal usability

Publisher: ACM

Full text available:  [pdf](#) (539.03 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 6, Downloads (12 Months): 65, Citation Count: 3

The graphical user interface (GUI) is today's *de facto* standard for desktop computing. GUIs are designed and optimized for use with a mouse and keyboard. However, modern trends make this reliance on a mouse and keyboard problematic for two reasons. ...

Keywords: information entropy, input, input adaptation, input transformation, user interface

10 High-performance IPv6 forwarding algorithm for multi-core and multithreaded network processor



Xianghui Hu, Xinan Tang, Bei Hua

March 2006 PPoPP '06: Proceedings of the eleventh ACM SIGPLAN symposium on Principles and practice of parallel programming

Publisher: ACM

Full text available: [PDF](#) (555.50 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 12, Downloads (12 Months): 220, Citation Count: 4

IP forwarding is one of the main bottlenecks in Internet backbone routers, as it requires performing the longest-prefix match at 10Gbps speed or higher. IPv6 forwarding further exacerbates the situation because its search space is quadrupled. We propose ...

Keywords: IPv6 forwarding, multithreading, network processor, parallel programming, pipelining, table lookup, thread-level parallelism

11 High-performance packet classification algorithm for many-core and



multithreaded network processor

Duo Liu, Bei Hua, Xianghui Hu, Xinan Tang

October 2006 CASES '06: Proceedings of the 2006 international conference on Compilers, architecture and synthesis for embedded systems

Publisher: ACM

Full text available: [PDF](#) (1.14 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 12, Downloads (12 Months): 164, Citation Count: 2

Packet classification is crucial for the Internet to provide more value-added services and guaranteed quality of service. Besides hardware-based solutions, many software-based classification algorithms have been proposed. However, classifying at 10Gbps ...

Keywords: architecture, embedded system design, multithreading, network processor, packet classification, thread-level parallelism

12 TypeCase: a design pattern for type-indexed functions

 Bruno C. d. S. Oliveira, Jeremy Gibbons
September 2005 Haskell '05: Proceedings of the 2005 ACM SIGPLAN workshop on Haskell

Publisher: ACM

Full text available:  [PDF](#) (169.88 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 3, Downloads (12 Months): 33, Citation Count: 6

A *type-indexed function* is a function that is defined for each member of some family of types. Haskell's type class mechanism provides collections of *open type-indexed functions*, in which the indexing family can be extended by defining ...

Keywords: generic programming, type classes, type-indexed functions

13 Scalable packet classification using interpreting: a cross-platform multi-core solution

 Haipeng Cheng, Zheng Chen, Bei Hua, Xinan Tang
February 2008 PPoPP '08: Proceedings of the 13th ACM SIGPLAN Symposium on Principles and practice of parallel programming

Publisher: ACM

Full text available:  [PDF](#) (463.37 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 18, Downloads (12 Months): 169, Citation Count: 0

Packet classification is an enabling technology to support advanced Internet services. It is still a challenge for a software solution to achieve 10Gbps (line-rate) classification speed. This paper presents a classification algorithm that can be efficiently ...

Keywords: architecture, embedded system design, multithreading, network processor, packet classification, thread-level parallelism

14 On the sorting-complexity of suffix tree construction

 Martin Farach-Colton, Paolo Ferragina, S. Muthukrishnan
November 2000 Journal of the ACM (JACM), Volume 47 Issue 6

Publisher: ACM

Full text available:  [PDF](#) (179.17 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 13, Downloads (12 Months): 169, Citation Count: 13

The suffix tree of a string is the fundamental data structure of combinatorial pattern matching. We present a recursive technique for building suffix trees that yields optimal algorithms in different computational models. Sorting is an inherent bottleneck ...

Keywords: DAM model, RAM model, external-memory data structures, sorting complexity, suffix array, suffix tree

15 Fast and approximate stream mining of quantiles and frequencies using graphics processors



Naga K. Govindaraju, Nikunj Raghuvanshi, Dinesh Manocha

June SIGMOD '05: Proceedings of the 2005 ACM SIGMOD international conference
2005 on Management of data

Publisher: ACM

Full text available: [PDF](#) (658.89 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#)

Bibliometrics: Downloads (6 Weeks): 13, Downloads (12 Months): 110, Citation Count: 9

We present algorithms for fast quantile and frequency estimation in large data streams using graphics processors (GPUs). We exploit the high computation power and memory bandwidth of graphics processors and present a new sorting algorithm that performs ...

Keywords: data streams, frequencies, graphics processors, memory bandwidth, quantiles, sliding windows, sorting

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